

Amendments to the Claims

At the Examiner's request, Applicant hereby re-submits the amendments to the claims presented in the Amendment filed April 13, 2004.

1. (Currently Amended) A method of formatting an optical recording medium, said optical recording medium including a primary spare area, a supplementary spare area for replacing a defective unit with available replacement unit, and a defect management area including a defect management information for managing a defective area, the method comprising:

(a) resetting a location information of the supplementary spare area in response to a formatting request to indicate at least that the supplementary spare area is not assigned, wherein the supplementary spare area has a variable size and ~~the defect management area further includes the location information indicating a position of a variable supplementary spare area~~ a start position of the supplementary spare area is varied and is moved toward an inner radius of the recording medium, depending upon the variance of the size of the supplementary spare area, while an end position of the supplementary spare area is fixed and is located close to a lead-out area of the recording medium; and

(b) formatting the optical recording medium in response to the formatting request at least to use the supplementary spare area as a user data area after formatting.

2. (Previously Presented) A method of claim 1, further comprising:

determining if a supplementary spare area has been assigned prior to said resetting step (a) and said formatting step (b), wherein said steps (a) and (b) are performed if a supplementary spare area has been assigned.

3. (Previously Presented) A method of claim 1, wherein said resetting step (a) comprises converting the location information of the supplementary spare area to a predetermined value.

4. (Previously Presented) A method of claim 3, wherein the predetermined value is a lowest value.

5. (Previously Presented) A method of claim 3, wherein the predetermined value is a highest value.

6. (Previously Presented) A method of claim 3, wherein the predetermined value is a specific code based upon a predetermined agreement.

7. (Previously Presented) A method of claim 1, wherein said formatting step (b) includes registering sectors judged to have defects into a new PDL (primary defect list), if the optical recording medium is to be formatted with certification.

8. (Previously Presented) A method of claim 1, wherein said formatting step (b) includes registering all sectors previously judged in an old SDL (secondary defect list) into a new PDL (primary defect list) if the optical recording medium is to be formatted without certification.

9. (Previously Presented) A method of claim 1, wherein the location information of the supplementary spare area is stored in a secondary defect list of the defect management area of the optical recording medium.

10. (Currently Amended) A method of claim 9, wherein the location information of the supplementary spare area includes at least the start position ~~and end addresses~~ of the supplementary spare area on the optical recording medium.

11. (Previously Presented) A method of claim 7, wherein said formatting step (b) further includes disposing an old SDL existed prior to said formatting step (b), if the optical recording medium is to be formatted with certification.

12. (Previously Presented) A method of claim 1, wherein said formatting step (b) reformats the optical recording medium by moving defective sectors registered in a first list to a second list.

13. (Previously Presented) A method of claim 12, wherein the first list and second list are, respectively, an SDL (secondary defect list) and a PDL (primary defect list) for the optical recording medium.

14. (Currently Amended) A method of formatting an optical recording medium, said recording medium including a primary spare area, a supplementary spare area for replacing a defective unit with available replacement unit, and a defect management area including a defect management information for managing a defective area, the defect management information including a secondary information indicating a location of a defective unit and a location of a replacement unit, the method comprising:

receiving an instruction to format the recording medium;

resetting a location information of the supplementary spare area in response to the instruction to indicate at least that the supplementary spare area is not assigned, wherein the supplementary spare area has a variable size and ~~the defect management area further includes a location information indicating a position of a variable supplementary spare area~~ a start position of the supplementary spare area is varied and is moved toward an inner radius of the recording medium, depending upon the variance of the size of the supplementary spare area, while an end position of the supplementary spare area is fixed and is located close to a lead-out area of the recording medium; and

transferring secondary defect information with a new PDL (primary defect list) of the defect management information according to the instruction ~~thereby~~ at least to use the supplementary spare area as a user data area after formatting.

15. (Previously Presented) A method of claim 14, wherein the transferring step includes the step of:

registering sectors judged to have defects into the new PDL if the recording medium is to be formatted with certification.

16. (Previously Presented) A method of claim 15, wherein the transferring step further includes the step of:

disposing an old SDL (secondary defect list) of the secondary defect information if the recording medium is to be formatted with certification.

17. (Previously Presented) A method of claim 14, wherein said transferring step includes the step of:

registering all sectors previously judged in an old SDL (secondary defect list) of the secondary defect information into a new PDL if the recording medium is to be formatted without certification.

18. (Previously Presented) A method of claim 14, wherein the location information of the supplementary spare area is stored in a secondary defect list of the defect management area of the recording medium.

19. (Currently Amended) A method of claim 18, wherein the location information includes ~~of the supplementary spare area at least the start and end addresses~~ position of the supplementary spare area on the recording medium.

20. (Previously Presented) A method of claim 14, wherein said resetting step includes the step of:

converting the location information of the supplementary spare area to a predetermined value.

21. (Previously Presented) A method of claim 20, wherein the predetermined value is a lowest value, a highest value, or a predetermined code.

22. (Previously Presented) A method of claim 14, wherein, after the receiving step, the resetting step is performed prior to the transferring step.

23. (Previously Presented) A method of claim 14, after the receiving step, the resetting step is performed prior to the resetting step.

24. (Canceled)

25. (Canceled)

26. (Canceled)

27. (Canceled)

28. (Canceled)

29. (Canceled)

30. (Currently Amended) A method of formatting an optical recording medium, said recording medium including a ~~primary~~first spare area, a ~~supplementary~~second spare area for replacing a defective area with available replacement area which has a variable size, and a defect management area including a defect management information for managing a defective area, the defect management information including a first information to indicate a ~~defective unit found at least during formatting, a second information to indicate a defective unit found at least after formatting, the second~~first information further including a ~~third~~second information to indicate a location of the ~~supplementary~~second spare area, the method comprising:

checking if a command for formatting of the optical recording medium is received; and

changing the ~~supplementary~~second spare area to a user area to be written, if the command is received, while resetting the ~~third~~second information to indicate that the ~~supplementary~~second spare area is not assigned, wherein the second information includes start and end addresses of the second spare area, and the end address is fixed and is located close to a lead-out area of the recording medium, while the start address is varied and is

moved toward an inner radius of the recording medium, upon the variance of the size of the second spare area.

31. (Previously Presented) A method of claim 30, wherein the optical recording medium is a DVD-RAM.

32. (Currently Amended) A method of claim 31, wherein the defect management information further includes third information to indicate a defective area found at least during formatting, wherein the first-third information corresponds to a PDL (primary defect list) and the ~~second-first~~ information corresponds to a SDL (secondary defect list)

33. (Currently Amended) A method of claim 32, further comprising:
converting a location of a defective ~~unit-area~~ area listed in the ~~second-first~~ information, to the ~~first-third~~ third information.

34. (Currently Amended) A method of claim 30, wherein the ~~supplementary-second~~ spare area is extended from a fixed location close to a lead-out area to a variable inner location of the recording medium.

35. (Canceled)

36. (Canceled)

37. (Currently Amended) A method of claim 30 ~~35~~, wherein the start address is varied based on the variance with respect to the size of the ~~supplementary-second~~ spare area, while the end address is not varied.

38. (Currently Amended) A method of claim 30, wherein the ~~third~~second information is reset to a value 00h to indicate that the ~~supplementary~~second spare area is not assigned, when the formatting is requested.

39. (Currently Amended) A recording medium comprising:

a ~~primary~~first spare area for ~~replacing a defective unit found during a formatting of the recording medium; and~~ a ~~supplementary~~second spare area for replacing a defective area found ~~at least after formatting with an available replacement area, the~~ ~~supplementary~~second spare area having a variable size; and

a defect management area including a defect management information for managing a defective area, the defect management information including a first information to indicate ~~a defective unit found at least during formatting, and a second information to indicate a defective unit~~area found at least after formatting, the ~~second~~first information further including a ~~third~~second information to indicate a location of the ~~supplementary~~second spare area,

wherein the ~~supplementary~~second spare area ~~can be~~is changed to a usable user area when formatting, while the second ~~third~~ information is reset to indicate that the ~~supplementary~~second spare area is not assigned, ~~and~~

wherein the second information includes start and end addresses of the second spare area, and the end address is fixed and is located close to a lead-out area of the recording medium, while the start address is varied and is moved toward an inner radius of the recording medium, upon the variance of the size of the second spare area.

40. (Currently Amended) A recording medium of claim 39, wherein the recording medium is a DVD-RAM.

41. (Currently Amended) A recording medium of claim 40, wherein the defect management information further includes third information to indicate a defective area found at least during formatting, wherein the first-third information corresponds to a PDL (primary defect list) and the ~~second-first~~ information corresponds to a SDL (secondary defect list).

42. (Currently Amended) A recording medium of claim 41, wherein a location of a defective ~~unit~~area listed in the SDL is moved to the PDL.

43. (Currently Amended) A recording medium of claim 39, wherein the ~~supplementary-second~~ spare area is extended from a fixed location close to a lead-out area to a variable inner location of the recording medium.

44. (Canceled)

45. (Canceled)

46. (Currently Amended) A recording medium of claim 39 ~~[[44]]~~, wherein the start address is varied based on the variance with respect to the size of the ~~supplementary-second~~ spare area, while the end address is not varied.

47. (Currently Amended) A recording medium of claim 39, wherein the ~~third-second~~ information is reset to a value 00h to indicate that the ~~supplementary-second~~ spare area is not assigned, when the formatting is requested.